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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/584,178	06/23/2006	Masayuki Kishida	57903/A400	4742
23363 7590 09/21/2007 CHRISTIE, PARKER & HALE, LLP PO BOX 7068 PASADENA, CA 91109-7068			EXAMINER LY, HIEN QUANG	
			ART UNIT 3662	PAPER NUMBER
			MAIL DATE 09/21/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/584,178	KISHIDA, MASAYUKI	
	Examiner	Art Unit	
	Hien Ly	3662	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 June 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 June 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☒ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>06/23/2006</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 9 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

3. Claim 9 recites these limitations as indicated below:

- "Said target" in page 24, line 1.
- " Said peak frequency" in page 24, line 4-5, and page 25, line 3.
- " Said upsweep and down sweep" in page 24, line 5, and page 25, line 3.
- "Prescribed range" in page 25, line 6-7.

There are insufficient antecedents basis for above limitations in the claim.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Kishida ('2003/0122702)** in view of **Natsume ('6,646,589)**.

Regarding **claim1**, Kishida discloses discloses:

- Predicting values for the peak frequencies currently detected in the upswing and downswing computed from the relative distance and relative velocity previously detected respect to a target. See page 2, paragraph 0027, line 12-23 (" the Doppler effects, pairs of peak frequency, the rising and falling portion").
- Determining whether any of predicted values exceeding a detection frequency range. See page 2, paragraph 0030 and 0031 (f_b signal frequency).

Kishida fails to disclose steps of folding frequency if the a peak frequency exceeds the detection frequency range, proceeding to search the currently detected peak frequencies to determine whether there are upswing and downswing peak frequencies approximately equal to predicted values, if upswing and downswing peak frequency are found, peak frequency approximately equal to folded predicted value and folded peak frequency is used.

However, Natsume discloses:

- Folding frequency if the peak frequency exceeds the detection frequency range. See FIG. 14a and FIG. 15 (" fb_{u1}' and fb_{u1}"). Column 8, line 45-49.
- Proceeding to search the currently detected peak frequencies approximately equal to predicted values, if upswing and down sweep peak frequency are

found, peak frequency approximately equal to folded predicted value and folded peak frequency is used. See column 14, lines 5-19.

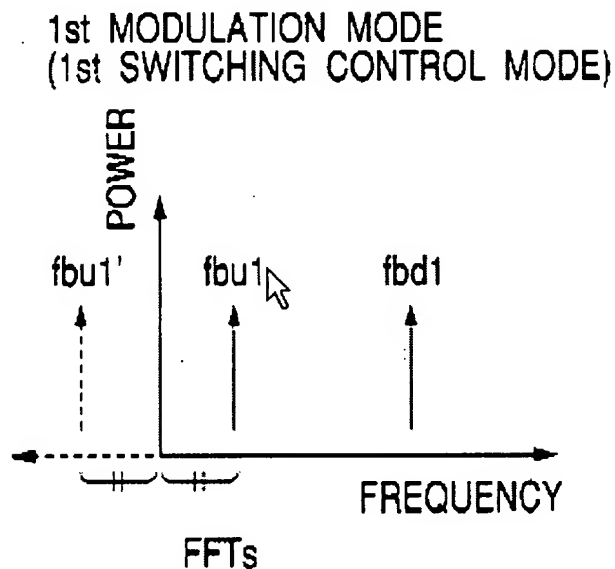
The beat frequency is read as the peak frequency exceeding the detection frequency. The shifting frequency $fbu1'$ to $fbu1$ in FFTs is well known to one skilled in the art as a folding frequency step, and target frequencies being shifted by the FFT to within a preset band of the beat signal B is read as selected peak frequency detected within upsweep and down sweep equal to folded predicted frequency.

It would have been obvious to modify Kishida to include a step to determine folded peak being used in teaching of Natsume in order to measure both the distance to and relative speed of a target.

Regarding **claim 2**, Kishida fails to disclose a negative predicted peak inverted in sign and taken as one of predicted values and a step of proceeding to search the currently detected peak frequencies to determine whether there are upsweep and downsweep peak frequencies approximately equal to predicted values, if upsweep and downsweep peak frequency are found, peak frequency approximately equal to folded predicted value and folded peak frequency is used.

However, Natsume discloses:

- A negative predicted peak inverted in sign and taken as one of predicted values. See column 17, line 9-15 (" the first modulation mode, negative value, a final target").



- A step of proceeding to search the currently detected peak frequencies to determine whether there are upsweep and downsweep peak frequencies approximately equal to predicted values, if upsweep and downsweep peak frequency are found, peak frequency approximately equal to folded predicted value and folded peak frequency is used as previously discussed in **claim 1**.

The $fbu1'$ is converted from negative value to $fbu1$ as one of predicted value in FFTs calculation.

It would have been obvious to modify Kishida to include a step to determine folded peak being used in teaching of Natsume in order to measure both the distance to and relative speed of a target.

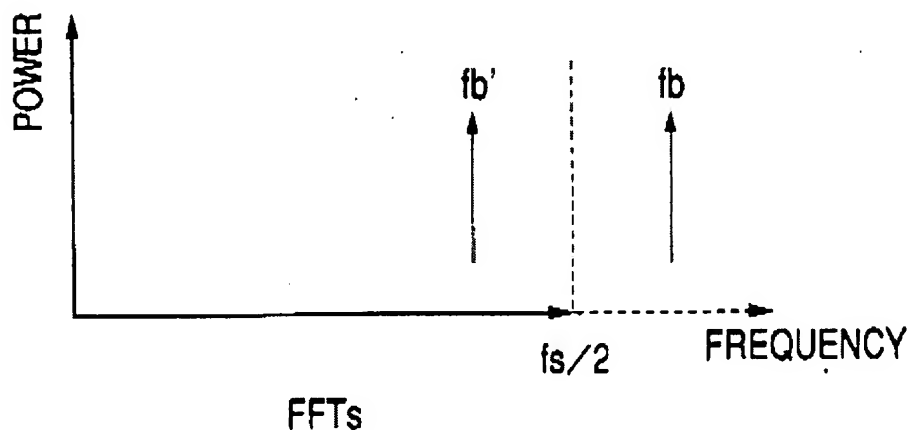
Regarding **claim 3**, Kishida fails to disclose the predicted value exceeding an upper limit frequency of detection frequency range, the peak frequency folded with respect to the upper limit frequency, folded peak frequency taken as one of predicted

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value, and if upsweep and downsweep peak frequency are found, peak frequency approximately equal to folded predicted value and folded peak frequency is used.

However, Natsume discloses:

- The predicted value exceeding an upper limit frequency of detection frequency range, the peak frequency folded with respect to the upper limit frequency, folded peak frequency taken as one of predicted value. See column 17, line 38-42.



- A step of proceeding to search the currently detected peak frequencies to determine whether there are upsweep and downsweep peak frequencies approximately equal to predicted values, if upsweep and downsweep peak frequency are found, peak frequency approximately equal to folded predicted value and folded peak frequency is used as previously discussed in **claim 1**.

The peak frequency is read as a beat frequency, and the frequency component fb is higher than the sampling frequency fs , which is also read as frequency range.

It would have been obvious to modify Kishida to include a step to determine folded peak being used in teaching of Natsume in order to measure both the distance to and relative speed of a target.

Allowable Subject Matter

6. Claims 4-8 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hien Ly whose telephone number is 571-270-1326. The examiner can normally be reached on M-F: 7:00am - 4:00pm (EST).

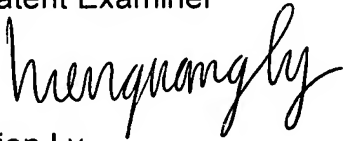
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, THOMAS H. TARCZA can be reached on 571-272-6979. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR.

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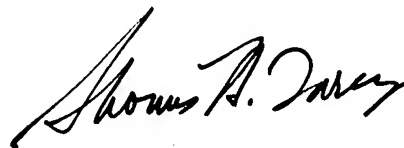
Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Patent Examiner



Hien Ly

August 14, 2007



THOMAS H. TARCZA
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3600